Remarks

With the present amendments claim 9 is directed to a Markush group of proteins, including all the proteins originally found in claims 9, 11 and 13. Claims 11 and 13 are now made dependent on claim 9. In addition, claim 38 is amended to be directed to an immunogenic composition comprising at least one protein according to claims 9-15.

Applicants have elected the claims in Group II directed to *Lawsonia intracellularis* protein and a vaccine composition for examination in this application. As required, Applicants also elected a single sequence, Sequence ID No.: 2. However, it is believed that all of the immunogenic proteins defined in the claims should properly be examined together in the present application. They are related as being proteins of *Lawsonia intracellularis*, as well as being few in number. The proteins are defined and, for one of them, three sub-sequences are provided. Being few in number and being closely related such that a search and examination of the entire Markush claim can be made without serious burden, it is appropriate to examine all the claims on their merits even though they may be directed to independent and distinct inventions (MPEP § 803.02).

It is respectfully submitted that the elected claims in Group II, with the present amendments, define a patentable improvement in the art. Favorable action is solicited. Should it be believed that a conference would be helpful in advancing the prosecution of this application, the Examiner is invited to telephone Applicants' attorney at the number below.

Respectfully Submitted,

William M. Blackstone
Attorney for Applicants
Registration Number 29,772

Akzo Nobel Patent Department
Intervet Inc
P.O. Box 318
Millsboro, DE 19966
Tel: (410) 464-0581
Sec: (302) 933-4027
Fax: (302) 934-4305

In the Claims (Marked Version)

9. A *Lawsonia intracellularis* protein, said protein comprising an amino acid sequence that is at least 70 % homologous to [the] an amino acid sequence [as depicted in] selected from the group consisting of SEQ ID NO: 2 [or], SEQ ID No: 4, a *Lawsonia intracellularis* Outer Membrane Protein having a molecular weight of 19/21 kD, said Outer Membrane Protein being obtainable by a process comprising the steps of

a) subjecting an outer membrane preparation to SDS-PAGE

b) excision of the 19 or 21 kD band from the gel, and an immunogenic fragment of said protein.

11. The *Lawsonia intracellularis* protein according to claim 9, said protein comprising an amino acid sequence that is at least 70 % homologous to the amino acid sequence as depicted in SEQ ID NO: 4 or an immunogenic fragment of said protein.

13. The *Lawsonia intracellularis* Outer Membrane Protein according to claim 9, having a molecular weight of 19/21 kD, said Outer Membrane Protein being obtainable by a process comprising the steps of

a) subjecting an outer membrane preparation to SDS-PAGE

b) excision of the 19 or 21 kD band from the gel or an immunogenic fragment of said protein.

18. Vaccine for combating *Lawsonia intracellularis* infections, characterized in that it comprises [a nucleic acid sequence according to claims 1-4, a DNA fragment according to claim 5, a recombinant DNA molecule according to claim 6, a live recombinant carrier according to claim 7, a host cell according to claim 8 or] an immunogenically effective amount of a protein according to [claims 9-15] claim 9, and a pharmaceutically acceptable carrier.

38. [A vaccine for combating Lawsonia intracellularis infection] An immunogenic composition comprising [a] at least one protein according to claims 9 - 15.